



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OIL AND GAS MANAGEMENT PROGRAM

<b>DEP USE ONLY</b>	
Site ID	Primary Fac ID
Client	Subfacility Id

### Completion Report

Well Information					
If you are submitting this Completion Report attached to the Well Record, you only need to enter the well API # in this section.					
Well Operator Range Resources-Appalachia, LLC	DEP ID# 141142	Well API # (Permit / Reg) 37-125-23992	Project Number	Acres 475	
Address 380 Southpointe Blvd, Suite 300		Well Farm Name Weimer Lillian Unit	Well # 2H	Serial #	
City Canonsburg	State PA	Zip Code 15317	County Washington	Municipality Chartiers	
Phone 724-743-6700	Fax 724-743-6490	Email	USGS 7.5 min. quadrangle map Washington West		

Check the appropriate submission:  Original Completion Report  Amended Completion Report

#### STIMULATION BASE FLUID

List Water Management Plan Approved Water Source(s) that were used	Water Management Plan ID No.	Volume (Gallons)
1. PA American Water Co/Old Hickory Ridge Rd Meter Vault	Source 7	1,494,419
2. PA American Water Co/Arden Rd Meter Vault	Source 18	266,074
3.		
4.		
5.		
6.		
<b>Recycled Water Used</b>		<b>3,022,761</b>
Other Base Fluid(s)/Components Used		
1.		
2.		
<b>Total Base Fluid(s)/Components Used</b>		

#### PERFORATION RECORD

Stage No.	Perforation Date	Stage Perforated From	Stage Perforated To	Perf. Orientation (Vertical, Horizontal, Radial)	Formation
1	4/18/11	11,150'MD	10,962'MD	Horizontal	Marcellus Shale
2	4/18/11	10,868'MD	10,680'MD	Horizontal	Marcellus Shale
3	4/19/11	10,586'MD	10,398'MD	Horizontal	Marcellus Shale
4	4/19/11	10,304'MD	10,116'MD	Horizontal	Marcellus Shale
5	4/19/11	10,022'MD	9,834'MD	Horizontal	Marcellus Shale
6	4/20/11	9,740'MD	9,552'MD	Horizontal	Marcellus Shale
7	4/20/11	9,458'MD	9,270'MD	Horizontal	Marcellus Shale
8	4/20/11	9,176'MD	8,988'MD	Horizontal	Marcellus Shale
9	4/21/11	8,894'MD	8,706'MD	Horizontal	Marcellus Shale
10	4/21/11	8,612'MD	8,424'MD	Horizontal	Marcellus Shale
11	4/22/11	8,330'MD	8,142'MD	Horizontal	Marcellus Shale
12	4/22/11	8,048'MD	7,860'MD	Horizontal	Marcellus Shale
13	4/25/11	7,766'MD	7,578'MD	Horizontal	Marcellus Shale

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14	4/26/11	7,484'MD	7,296'MD	Horizontal	Marcellus Shale
15	4/26/11	7,202'MD	7,014'MD	Horizontal	Marcellus Shale



## STIMULATION FLUID ADDITIVES-Continued

Descriptive Additive Type	Chemical Component(s) listed on Material Safety Data Sheet of the Additive	CAS No. of Chemical Component	Chemical Component % By Volume in Additive	Chemical Component % By Volume used in Each Stage							
				Stage No. 7	Stage No. 8	Stage No. 9	Stage No. 10	Stage No. 11	Stage No. 12		
FR-200W	N/A	N/A	N/A	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
FR-300W	N/A	N/A	N/A	0.0466%	0.0332%	0.0400%	0.0446%	0.0783%	0.0450%	0.0450%	0.0450%
MX 588-2	N/A	N/A	N/A	0.0073%	0.0069%	0.0069%	0.0069%	0.0069%	0.0072%	0.0072%	0.0072%
NE100	N/A	N/A	N/A	0.0003%	0.0003%	0.0003%	0.0003%	0.0003%	0.0003%	0.0003%	0.0003%
FE100L	N/A	N/A	N/A	0.0009%	0.0008%	0.0009%	0.0009%	0.0009%	0.0009%	0.0009%	0.0009%
37% HCL	HCL	7647-01-0	37%	0.0516%	0.0490%	0.0553%	0.0513%	0.0534%	0.0532%	0.0532%	0.0532%
Cl-100	Methanol	67-56-1	93%	0.0005%	0.0005%	0.0006%	0.0005%	0.0006%	0.0006%	0.0006%	0.0006%
Cl-100	Propargyl Alcohol	107-19-7	4%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
BMC B-8650	Glutaraldehyde	111-30-8	49%	0.0063%	0.0045%	0.0054%	0.0060%	0.0106%	0.0061%	0.0061%	0.0061%
BMC B-8650	Methanol	67-56-1	1%	0.0001%	0.0001%	0.0001%	0.0001%	0.0002%	0.0001%	0.0001%	0.0001%
CS-1135	4,4-Dimethyloxazolidine	51200-87-4	77%	0.0258%	0.0183%	0.0221%	0.0246%	0.0433%	0.0249%	0.0249%	0.0249%
CS-1135	3,4,4-Trimethyloxazolidine	75673-43-7	5%	0.0017%	0.0012%	0.0014%	0.0016%	0.0028%	0.0016%	0.0016%	0.0016%
CS-1135	2-Amino-2-methyl-1-propanol	124-68-5	1%	0.0004%	0.0003%	0.0003%	0.0003%	0.0006%	0.0003%	0.0003%	0.0003%
CS-1135	Formaldehyde Amine	56652-26-7	0%	0.0002%	0.0001%	0.0001%	0.0001%	0.0003%	0.0001%	0.0001%	0.0001%

Please insert additional copies of this page if additional rows/stages are needed.

## STIMULATION FLUID ADDITIVES

Note: Trade secret or confidential proprietary information should be clearly identified as such and should be submitted on a separate sheet attached to this report.

Descriptive Additive Type	Chemical Component(s) listed on Material Safety Data Sheet of the Additive	CAS No. of Chemical Component	Chemical Component % By Volume in Additive	Chemical Component % By Volume used in Each Stage				
				Stage No. 13	Stage No. 14	Stage No. 15	Stage No.	Stage No.
FR-200W	N/A	N/A	N/A	0.0000%	0.0000%	0.0000%		
FR-300W	N/A	N/A	N/A	0.0342%	0.0328%	0.0360%		
MX 588-2	N/A	N/A	N/A	0.0068%	0.0068%	0.0068%		
NE100	N/A	N/A	N/A	0.0003%	0.0003%	0.0003%		
FE100L	N/A	N/A	N/A	0.0010%	0.0010%	0.0009%		
37% HCL	HCL	7647-01-0	37%	0.0572%	0.0576%	0.0549%		
CI-100	Methanol	67-56-1	93%	0.0006%	0.0006%	0.0006%		
CI-100	Propargyl Alcohol	107-19-7	4%	0.0000%	0.0000%	0.0000%		
BMC B-8650	Glutaraldehyde	111-30-8	49%	0.0046%	0.0044%	0.0049%		
BMC B-8650	Methanol	67-56-1	1%	0.0001%	0.0001%	0.0001%		
CS-1135	4,4-Dimethyloxazolidine	51200-87-4	77%	0.0189%	0.0181%	0.0199%		
CS-1135	3,4,4-Trimethyloxazolidine	75673-43-7	5%	0.0012%	0.0012%	0.0013%		
CS-1135	2-Amino-2-methyl-1-propanol	124-68-5	1%	0.0003%	0.0002%	0.0003%		
CS-1135	Formaldehyde Amine	56652-26-7	0%	0.0001%	0.0001%	0.0001%		

Please insert additional copies of this page if additional rows/stages are needed.

Well API# 37-125-23992

<b>STIMULATION INFORMATION (WELL)</b>			
Open Flow Production: Omcf/d @ 24hrs pos treatment	24 Hr. Open Flow Production: Omcf/d @ 24hrs pos treatment	24 Hr. Shut-in Pressure: N/A @ 24hrs post treatment	Flow Back Date:

**STIMULATION INFORMATION (STAGE)**

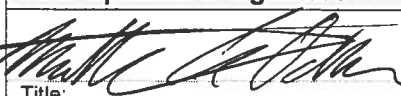
Complete a separate record for each stimulation stage. (Please insert additional copies of this page for additional stages).

<b>Stage No.:</b> 1	Stimulation Date: 4/18/11	Pump Rate: 62.6
Pressure (psi): 8,660	Shut-in Surface Pressure: 3,486	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 307,889	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 2	Stimulation Date: 4/18/11	Pump Rate: 69.1
Pressure (psi): 7,441	Shut-in Surface Pressure: 3,747	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 313,833	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 3	Stimulation Date: 4/19/11	Pump Rate: 68.8
Pressure (psi): 8,126	Shut-in Surface Pressure: 3,517	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 316,514	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 4	Stimulation Date: 4/19/11	Pump Rate: 68.3
Pressure (psi): 8,082	Shut-in Surface Pressure: 3,581	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 310,449	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 5	Stimulation Date: 4/19/11	Pump Rate: 69.9
Pressure (psi): 7,862	Shut-in Surface Pressure: 3,645	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 308,029	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 6	Stimulation Date: 4/20/11	Pump Rate: 65.8
Pressure (psi): 8,207	Shut-in Surface Pressure: 3,850	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 311,248	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 7	Stimulation Date: 4/20/11	Pump Rate: 59.9
Pressure (psi): 8,514	Shut-in Surface Pressure: 3,914	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 308,351	Propping Agent Size: 100 Mesh 30/50 Mesh

**WELL SERVICE COMPANIES (Provide the name, address, and telephone number of all well service companies involved.)**

<b>Name</b> Frac Tech <b>Address</b> 16858 IH20 City - State - Zip Cisco, TX 76437 <b>Phone</b> 817-850-1008	<b>Name</b> Multi-Chem <b>Address</b> 200 Detroit Street City - State - Zip Washington, PA <b>Phone</b> 325-486-7489	<b>Name</b> Universal Well Servi ces <b>Address</b> 730 Braddock View Drive City - State - Zip Mt Braddock, PA 15465 <b>Phone</b> 724-430-6201
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*I do hereby certify to the best of my knowledge, information and belief that the information contained on this Completion Report is true and correct. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.*

<b>Well Operator's Signature</b>	<b>DEP USE ONLY</b>	
 Title: Completion Engineer: M. Ockree	Reviewed by:	Date:
	Comments:	

**STIMULATION INFORMATION (STAGE- Continued)**

Complete a separate record for each stimulation stage. (Please insert additional copies of this page for additional stages).

<b>Stage No.:</b> 8	Stimulation Date: 4/20/11	Pump Rate: 64.6
Pressure (psi): 7,285	Shut-in Surface Pressure: 3,704	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 307,448	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 9	Stimulation Date: 4/21/11	Pump Rate: 69.2
Pressure (psi): 7,936	Shut-in Surface Pressure: 3,921	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 310,405	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 10	Stimulation Date: 4/22/11	Pump Rate: 67.9
Pressure (psi): 7,116	Shut-in Surface Pressure: 3,956	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 308,911	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 11	Stimulation Date: 4/22/11	Pump Rate: 65.9
Pressure (psi): 7,873	Shut-in Surface Pressure: 3,645	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 310,554	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 12	Stimulation Date: 4/25/11	Pump Rate: 69.2
Pressure (psi): 7,980	Shut-in Surface Pressure: 3,915	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 307,385	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 13	Stimulation Date: 4/25/11	Pump Rate: 68.6
Pressure (psi): 7,285	Shut-in Surface Pressure: 3,838	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 306,578	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 14	Stimulation Date: 4/26/11	Pump Rate: 68.8
Pressure (psi): 7,530	Shut-in Surface Pressure: 3,985	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 309,501	Propping Agent Size: 100 Mesh 30/50 Mesh
<b>Stage No.:</b> 15	Stimulation Date: 4/26/11	Pump Rate: 63.5
Pressure (psi): 7,086	Shut-in Surface Pressure: 4,015	5 Minute Shut-in Surface Pressure: N/A
Propping Agent Type: Sand	Propping Agent Amount: 310,426	Propping Agent Size: 100 Mesh 30/50 Mesh



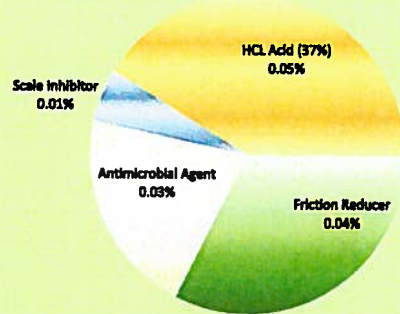
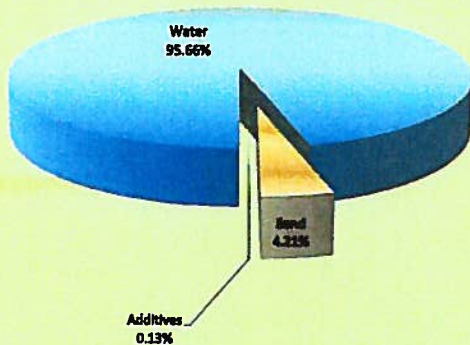
RANGE RESOURCES

Weimer, Lillian Unit #2H  
Well API: 37-125-23992

Completion Date: April 13, 2011  
Township: Chartiers

% Composition of Hydraulic Fracture Fluid (by volume)						
Product Name	Additive	Purpose	Use and Dilution	Volume	Overall %	Common Uses
Water	Carrier Fluid	Creates fracture network in shale and carry proppant to the formation	Primary constituent	4,776,803 gal	95.66%	Water is the most abundant molecule on the Earth's surface
Sand	Sand	Allows fractures to remain open so gas can escape	Second most common constituent, making up almost 6% of the fluid	210,068 gal	4.21%	Drinking water filtration, play sand
FRW-300	Friction Reducer	Reduces friction between fluid and pipe	Diluted at one-half gallon per 1,000 gallons of water	2,093 gal	0.04%	Water treatment, soil conditioner, some children's toys
MC B-8650/Bioban	Antimicrobial Agent	Eliminates bacteria in the water that produce corrosive byproducts	Diluted at one-half gallon per 1,000 gallons of water	1,346 gal	0.03%	Water treatment, disinfectant, sterilize medical and dental equipment and surfaces
MX 588-2	Scale Inhibitor	Prevents scaling in pipe	Diluted at one-tenth gallon per 1,000 gallons of water	0,350 gal	0.01%	Water treatment, household cleaners, de-icing agent
HCL Acid (37%)	Perf Clean-Up	Dissolves cement and minerals to help initiate fractures	177 gallons per stage if required (non-diluted chemicals)	2,659 gal	0.05%	Swimming pool and household cleaner

Composition of Hydraulic Fracture Fluid (by volume)





## Composition of Components in Marcellus Shale Hydraulic Fracturing Fluid

**RANGE RESOURCES**

Common Name & Supplier	Supplier Chemical Name	Common Description	Hazardous Component listed on MSDS	Purpose	MSDS Component Weight % of Chemical	Gallons MSDS Component in Well	Maximum Concentration of MSDS Component of Total Stage Fluid	
							% Vol	% Weight
7.5% HCl Mixture (FracTech)	37% HCL	concentrated HCl Acid	HCL	Cleans perforation	37.0%	2658.55	0.0532%	0.0218%
	CI-100	Corrosion Inhibitor	Methanol	Protects casing	95.0%	30.95	0.0006%	0.0005%
			Propargyl Alcohol	Protects casing	5.0%	1.33	0.0000%	0.0000%
	NE100	Non-Emulsifer	No hazardous ingredients	Prevents emulsions	0.0%	N/A	N/A	N/A
	FE100L	Iron Chelator	No hazardous ingredients	Prevents precipitation	0.0%	N/A	N/A	N/A
<b>TOTAL</b>							<b>0.0539%</b>	<b>0.0223%</b>
Friction Reducer (FracTech)	FRW-300	Friction Reducer	No hazardous ingredients	Reduce friction down casing	0.0%	N/A	N/A	N/A
Scale Inhibitor (Multichem)	MX 588-2	Scale Inhibitor	No hazardous ingredients	prevents scale deposits	0.0%	N/A	N/A	N/A
Antibacterial Agent (Multichem)	Bioban	Antibacterial Agent	4,4-Dimethylloxazolidine	eliminates bacteria in water	78.0%	739.53	0.0148%	0.0139%
			3,4,4-Trimethyloxazolidine		5.0%	48.41	0.0010%	0.0009%
			2-Amino-2-methyl-1-propanol		1.0%	10.15	0.0002%	0.0002%
			Formaldehyde Amine		0.5%	4.42	0.0001%	0.0001%
	BMC B-8650	Antibacterial Agent	Glutaraldehyde	eliminates bacteria in water	50.0%	138.86	0.0028%	0.0039%
			Methanol		0.5%	1.39	0.0000%	0.0000%
<b>TOTAL</b>							<b>0.0189%</b>	<b>0.0190%</b>
<b>SUMMARY</b>							<b>0.073%</b>	<b>0.041%</b>